

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

I. Status of the Claims

Claims 1, 17, 18, and 20 have been amended.

No new matter has been added.

Claims 2-6 were previously canceled without prejudice or disclaimer of the subject matter therein.

Claims 1 and 7-21 are now pending.

II. Rejections Under 35 U.S.C. §103

Claims 1, 7-11, and 15-21 were rejected under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,112,667 to Li et al. ("Li") in view of U.S. Patent No. 5,198,167 to Ohta et al. ("Ohta") and further in view of U.S. Patent No. 3,956,447 to Denommee et al. ("Denommee") and U.S. Patent No. 4,990,207 to Sasaki et al. ("Sasaki").

Claims 12 and 13 were rejected under 35 U.S.C. §103(a) as obvious over Li, Ohta, Denommee, and Sasaki in view of U.S. Patent No. 3,547,764 to Amerongen ("Amerongen").

Claim 14 was rejected under 35 U.S.C. §103(a) as obvious over Li, Ohta, Denommee, Sasaki, and Amerongen in view of U.S. Patent No. 5,879,608 to Lammeck et al. ("Lammeck").

Applicants respectfully traverse the rejections.

The Examiner admits that Li is silent to arranging the prepregs at predetermined portions of a press die using partially separated flaps of the prepregs as positioning pieces. The Examiner then contends that it would have been obvious to one of ordinary skill in the art to have arranged the prepregs on a press die using any type of positioning methods as long as the prepregs are positioned on the press mold to achieve the desired structure of the molded article. In addition, Figure 3 of Li

shows prepregs molded into the shell 12. It is inherent to position the separated flaps over the press mold to obtain the shape of the said shell 12.

Applicants respectfully disagree, even if it is inherent to position the separated flaps over the press mold (to which Applicants submit it is not), none of Li, Ohta, Denommee, Sasaki, Amerongen and Lammeck disclose the concrete measures for positioning the separated flaps over the press mold. Especially, none of the cited references disclose or suggest the measures for positioning in each process as claimed in claim 1:

forming a continuous plurality of notches or cutouts from a center portion to outer circumference in respective prepregs so as to form at least one set of a partially separated flap and a residual portion in a same position corresponding to each prepreg; [the first process]

arranging the respective prepregs to be laminated at predetermined positioning portions of a first press die using partially separated flaps of the prepregs as positioning pieces [the second process] (emphasis added).

Therefore, Applicants submit that the above first and second processes recited in claim 1 are not inherent.

Additionally, the Examiner admits that Li does not disclose two pressing steps. However, to cure this defect, the Examiner states that Ohta teaches a process for producing fiber molding for fiber-reinforced composite materials wherein a first desired three-dimensional shape is formed by pressing the fibers within a first die (17) fitted with a second die (19) (see Figure 5A) and forming a second desired three-dimensional shape in a third press die (23) that is different from the first press die and pressing them with a fourth press die (28) fitted to the third press die (see Figure 5C) (Col.8, Lines 33-65 and Col.9, Lines 1-14). It would have been obvious to one of ordinary skill in the art to have modified the method of producing a helmet (molded article) of a unidirectional (continuous single direction) fiber-reinforced composite material by simultaneously molding a plurality of sheets of prepreg cut out in a predetermined shape to include the method of pressing the fiber-reinforced composite material twice each by different pairs of dies (a two-step compression molding procedure) as taught by Ohta.

As disclosed by Ohta, the motivation for the combination would have been to cause the short fibers within the plane perpendicular to the first pressing direction to be oriented perpendicular to the second pressing force within the plane, making it possible to produce a fiber layer with short fibers which are oriented in one direction. *See, at least*, Abstract. As discussed above, Ohta's motivation to include the method of a two-step compression molding procedure is merely to cause the short fibers within the plane perpendicular to the first pressing direction to be oriented perpendicular to the second pressing force within the plane, making it possible to produce a fiber layer with short fibers oriented in one direction.

In contrast, the present invention claimed in claim 1 provides the feature where fibers of each prepreg are oriented in one direction before being molded, and then the fibers are arranged to be laminated so that the fibers of each prepreg are oriented relatively perpendicular or in a predetermined direction. Therefore, the processes recited in claim 1 of the present invention are different from the two-step compression molding procedure of Ohta, and there is no relationship between the present invention and Ohta's invention.

Further, Denommee and Sasaki do not cure the deficiencies of Li and Ohta. Thus, for at least the reasons described above, a combination of Li, Ohta, Denommee, and Sasaki, to the extent proper, does not render independent claim 1, or dependent claims 7-11, and 15-21 obvious. Withdrawal of the rejection of independent claim 1, and dependent claims 7-11, and 15-21, under 35 U.S.C. § 103(a) based on Li, Ohta, Denommee, and Sasaki is respectfully requested.

Turning to claims 12 and 13, Amerongen describes rubber articles reinforced with a fibrous polylactone (*see* Amerongen, Abstract), they depend from independent claim 1, and Amerongen does not cure the deficiencies of Li, Ohta, Denommee, and Sasaki.

Thus, for at least the reasons described above, a combination of Li, Ohta, Denommee, Sasaki, and Amerongen to the extent proper, does not render dependent claims 12 and 13 obvious. Withdrawal of the rejection of dependent claims 12 and 13 under 35 U.S.C. § 103(a) based on Li, Ohta, Denommee, Sasaki, and Amerongen is respectfully requested.

Addressing claim 14, Lammeck describes a molded polyurethane article made by reacting polyisocyanates with polyol compositions (*see* Lammeck, Abstract) and Lammeck does not cure the deficiencies of Li, Ohta, Denommee, Sasaki, and Amerongen.

Thus, for at least the reasons described above, a combination of Li, Ohta, Denommee, Sasaki, Amerongen, and Lammeck to the extent proper, does not render dependent claim 14 obvious. Withdrawal of the rejection of dependent claim 14 under 35 U.S.C. §103(a) based on Li, Ohta, Denommee, Sasaki, Amerongen, and Lammeck is respectfully requested.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The Examiner is respectfully requested to contact the undersigned at the telephone number indicated below if the Examiner believes any issue can be resolved through either a Supplemental Response or an Examiner's Amendment.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

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Respectfully submitted,

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